

### ABSTRACT

A reducing mill includes a plurality of stands disposed along a rolling direction line. The stands each include  $n$  rolls ( $n \geq 3$ ) disposed around the rolling direction line, the  $n$  rolls are shifted by  $180^\circ/n$  around the rolling direction line from  $n$  rolls included in a preceding stand. The  $n$  rolls included in each of the stands excluding the last stand each have a groove having an arch shape. The bottom of the groove has a circular arc shape around the rolling direction line having a first radius in cross section. The distance between the surface of a roll flange portion between the bottom and the edge of the groove and the rolling direction line is longer than the first radius. The distance between the edge of the groove and the rolling direction line is longer than the first radius in the groove of a roll included in the preceding stand.